

Problem Statement-8

```
package arrays;
public class Stack {
    static final int MAX = 1000;
    int top;
    int a[] = new int[MAX];
    boolean isEmpty()
    {
        return (top < 0);
    }
    Stack()
    {
        top = -1;
    }
    boolean push(int x)
    {
        if (top >= (MAX-1))
        {
            System.out.println("Stack Overflow");
            return false;
        }
        else
        {
            a[++top] = x;
            System.out.println(x + " pushed into stack");
            return true;
        }
    }
    int pop()
    {
        if (top < 0)
        {
            System.out.println("Stack Underflow");
            return 0;
        }
        else
        {
            int x = a[top--];
            return x;
        }
    }

    public static void main(String args[])
    {
        Stack s = new Stack();
        s.push(10);
        s.push(20);
        s.push(30);
    }
}
```

```

        System.out.println(s.pop() + " Popped from stack");
    }
}

```

The screenshot shows the Eclipse IDE with a project named 'Stack'. The 'Stack.java' file is open, displaying the following code:

```

1 package arrays;
2
3 public class Stack {
4     static final int MAX = 1000;
5     int top;
6     int a[] = new int[MAX];
7     boolean isEmpty()
8     {
9         return (top < 0);
10    }
11    Stack()
12    {
13        top = -1;
14    }
15    boolean push(int x)
16    {
17        if (top >= (MAX-1))
18        {
19            System.out.println("Stack Overflow");
20            return false;
21        }
22        else
23        {
24            a[++top] = x;
25            System.out.println(x + " pushed into stack");
26            return true;
27        }
28    }
29 }

```

The console output at the bottom shows the execution results:

```

<terminated> Stack [Java Application] C:\Users\Swaroop\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.7.v20230425-1502\jre\bin\javaw.exe (15-May-2023, 11:42:49 am)
10 pushed into stack
20 pushed into stack
30 pushed into stack
30 Popped from stack

```